Cisco MXE 5600 Media Experience Engine

Q. What is the Cisco® MXE 5600 Media Experience Engine?

A. The Cisco MXE 5600 delivers media transformation services that convert and enhance media (video and audio) in ways that make video more valuable and easier to use as a communications and collaboration tool, creating new and relevant experiences for end users. Cisco MXE platforms reside in the network—so they are accessible from anywhere—and they transform live and stored media so that it can be displayed on more devices and used by more people for more applications.

Q. What is the Cisco Media Transformation Services category?

A. The Cisco Media Transformation Services category is comprised of products that make video easy to use and find, engaging, and relevant.

Media transformation services fall into three groups:

— Rich media processing. This includes critical services, such as transrating and transcoding video, so that it can be viewed with optimum quality from any device to any device. I

— Production and workflow. Video production has traditionally been outsourced to specialty vendors who can add the appropriate graphics and generate the appropriate formats. Cisco brings these capabilities in-house and significantly simplifies the ability to self-publish a professional-looking video with consistent branding.

— Search and analytics. Video is currently an opaque medium that is difficult to search and index. Search and analytics services make videos as easy to browse, forward, and search as text is today.

These media transformation services enable new capabilities and experiences for existing video applications, such as the Cisco Digital Media Suite (DMS), Cisco TelePresence™ systems, and Cisco Physical Security systems. For example, the recording and streaming media service can turn any Cisco TelePresence endpoint into a high-definition studio. Coupled with the Cisco Show and Share video content platform, companies can deploy all elements of a video value chain—capture, transform, and share—in a tightly integrated, seamless package.

Q. Is the Cisco MXE 5600 a transcoder? A media gateway? A multipoint control unit (MCU)?

A. The Cisco MXE 5600 is a media-processing platform, a new class of devices required to meet today's new business video requirements. To enable any media to any endpoint anywhere, the Cisco MXE 5600 encompasses capabilities of other product categories such as transcoders, media gateways, and MCUs in order to connect multiple video applications together and, in addition, add value to the media being processed.

A transcoder converts media (video and audio) from one format to another. The codec, resolution, frame rate, bit rate, and encapsulation format may be changed from one standard to another so that you can use a display device (such as a PC, a video conferencing endpoint, or a mobile device) to receive media that otherwise would have been incompatible.

A gateway typically resides between two networks, and allows traffic to pass between those networks. The gateway can provide conversion between the signaling and media formats of the two networks. Thus, one component in a gateway can be a transcoder.

An MCU is a network device that allows multiple video conferencing endpoints to participate in two-party calls and multiparty conferences. It provides signaling and call-control functions; video transcoding (for incompatible

devices); video mixing (to show multiple participants in a single screen); and a range of scheduling, management, and security features.

One of the innovative aspects of the Cisco MXE 5600 is its flexibility. The Cisco MXE 5600 performs transcoding. Because it supports Session Initiation Protocol (SIP) signaling, it can also integrate into an existing communications infrastructure and act as a media gateway. And used in conjunction with the Cisco TelePresence Multipoint Switch, the Cisco MXE 5600 can provide some of the functions of an MCU.

At its core, the Cisco MXE 5600 is a platform that you can use to create many types of solutions.

Q. What use cases does the Cisco MXE 5600 enable?

A. Until the advent of the Cisco MXE 5600, incompatible endpoints simply could not communicate with each other in real time - and now they can. This solution delivers the power of video in a new range of communications and collaboration applications.

The Cisco MXE 5600 has potential uses in applications such as distance learning, video surveillance, remote medicine, and video conferencing. For example, the Cisco MXE 5600 could be used as part of a university's e-learning program, converting lectures from the format generated by the classroom camera to the formats required by students' PCs, mobile devices, or digital displays in common areas or remote classrooms.

Or a rural doctor, using a PC webcam and a third-generation (3G) cellular data connection, could stream video of a patient at home to a specialist sitting at a Cisco TelePresence system in a remote city. The result: reduced time needed for a diagnosis and improved quality of medical care—at very little cost.

In all these areas video is created by one device in one format, and needs to be received in real time by a different, incompatible device. With the Cisco MXE 5600, that process is now possible.

Cisco's first application using the Cisco MXE 5600 allows customers to conduct Cisco TelePresence calls and conferences with participants who are using high- and standard-definition video conferencing endpoints from other vendors such as Polycom. The Cisco MXE 5600 acts as a video gateway between these video conferencing endpoints and the Cisco TelePresence System.

Q. With which business video applications does the Cisco MXE 5600 integrate?

Because the Cisco MXE 5600 supports a broad range of input and output formats (codecs, bit rates, frame rates, resolutions, aspect ratios, and encapsulation types), the applications it supports are basically limited only by your imagination. For example, by using the Cisco MXE 5600 to feed media to video publishing systems such as Cisco Show and Share, the Cisco MXE 5600 allows real-time, enterprisewide distribution of media from many devices that previously would not have been usable for these purposes. As another example, the Cisco MXE 5600 can enable one-button-to-WebEx, content sharing, and recording and streaming integration between disparate video conferencing endpoints.

Q. Does the Cisco MXE 5600 support scheduled multipoint Cisco TelePresence calls?

A. Yes. Video conferencing users can use the same components they would use to schedule a Cisco TelePresence call today: Users can schedule using their email calendar (Microsoft Outlook, IBM Lotus Domino, etc.) and schedule the Cisco TelePresence rooms like they would normally. We are using a feature of Cisco TelePresence Manager available in the 1.7 release that allows interoperability calls to be scheduled with normal Cisco TelePresence calls. The important advantage is that the Cisco MXE 5600 supports one button to push, which simplifies the user experience in interoperability calls. The Cisco MXE 5600 transparently sits in the network without disrupting simplified multipoint calls.

Q. Which video conferencing endpoints are supported by the Cisco MXE 5600?

A. The Cisco MXE 5600 supports most standards-based video conferencing endpoints. Please refer to the compatibility matrix for more information about third-party video conferencing endpoints. http://www.cisco.com/en/US/products/ps10588/products_device_support_tables_list.html

Q. Where is the Cisco MXE 5600 deployed?

A. The Cisco MXE 5600 is designed as a data center-class device with high levels of redundancy and high availability designs.

Q. What is the capacity of the Cisco MXE 5600?

A. The Cisco MXE 5600 chassis can support up to three Cisco MXE 5600 Media Processing Modules (MPMs). Each of these blades has sufficient digital-signal-processor (DSP) resources to support up to 30 concurrent full-duplex, high-definition video ports. (A "port" provides a two-way connection to an endpoint or a Cisco TelePresence "segment".) For one-way applications (such as streaming), the number of concurrent input high definition (HD) streams plus the number of concurrent output HD streams can be up to 60 per MPM.

For Cisco TelePresence interoperability, each MPM can support up to 15 video conferencing endpoints and the associated 15 Cisco TelePresence segments. So a single MPM configuration allows up to 15 video conferencing endpoints to participate in a mixture of point-to-point (two-party) calls to Cisco TelePresence meetings and multipoint conferences through the Cisco TelePresence Multipoint Switch. The number of Cisco TelePresence system endpoints that can be supported in the point-to-point and multipoint conferences with the 15 video conferencing endpoints is limited by the capacity of the Cisco TelePresence Multipoint Switch.

Q. How is the Cisco MXE 5600 different from the Cisco MXE 3000 and MXE 3500 products?

A. The Cisco MXE 3000 is a CPU-based media-processing platform that can perform a range of transcoding and enhancement functions (such as graphic and text overlays) on stored media. The Cisco MXE 3500 provides a superset of the Cisco MXE 3000 capabilities with additional processing power to handle live transcoding for certain one-way broadcast applications and speech-to-text transcription.

The Cisco MXE 5600 is a DSP-based media-processing platform that performs media transformation in real time, supporting live (including two-way interactive) applications. In addition, the Cisco MXE 5600 can scale to numbers of concurrent streams well beyond the capabilities of the Cisco MXE 3000. Its modular form factor also allows fast introduction of new services and capabilities in the blade form factor, so you can build on your Cisco MXE 5600 deployments as you go.

Q. How is the Cisco MXE 5600 differentiated?

A. It offers a modular platform for maximum scalability:

- Scale: Up to 90 concurrent, full-duplex, high-definition video ports (three media-processing blades)
- Real time: Extremely low latency, allowing two-way interactive communications applications (such as video conferencing)
- Transcoding and signaling in one system, for integration with existing communications infrastructure (such as Cisco Unified Communications Manager)

Q. What is the return on investment (ROI), and what are the benefits of deploying the Cisco MXE 5600?

A. The ROI benefits of the Cisco MXE 5600 come from several directions:

- Greater return on your existing media investments:
  - You may have invested in video studios to produce content for marketing or executive communications purposes. You can now provide that content to a range of new devices, expanding the reach of your messages to new places and recipients.

- If you currently out-source your video production, you can use the Cisco MXE 5600 together with the Cisco TelePresence Content Server to simplify and enable some of this work in-house.
- Different groups of business units within your organization may use different video devices, systems, or methods of distribution, limiting the ways they can work together and share media. You can use the Cisco MXE 5600 to bridge these otherwise incompatible technologies, converting media in real time from one format to another to make it more useful and more valuable.

- Enhanced communications within your organization:
  - You may have an existing investment in video conferencing systems and you may want to use those systems in conjunction with your Cisco TelePresence systems. With the Cisco MXE 5600, those video conferencing endpoints can now be full participants in Cisco TelePresence calls and multipoint conferences, increasing your ROI in those video conferencing endpoints and your Cisco TelePresence systems.

Q. How much does it cost?

A. You can configure the Cisco MXE 5600 to support a range of port capacities. Contact your Cisco sales representative for more information.

Q. When will the Cisco MXE 5600 be available?

A. The Cisco MXE 5600 is available now.

For More Information

For more information about the Cisco MXE 5600, visit http://www.cisco.com/go/mxe.

Americas Headquarters
Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
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The Netherlands

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